

**1.0 TITLE OF EFFORT: Safety & Mission Assurance****2.0 TASK DESCRIPTION:**

The contractor shall provide safety and mission assurance management and administration including mission assurance and risk management, quality management audit and surveillance, safety and health, International partner S&MA integration, program risk assessment, safety, quality assurance and operations safety.

**2.1 STATEMENT OF WORK REFERENCE: Section 6.0 – Safety & Mission Assurance****2.2 REQUIREMENTS, DELIVERABLES, SCHEDULE:**

<b>SOW</b>	<b>Performance Requirement</b>	<b>Workload Indicators</b>	<b>Quantity</b>	<b>Schedule</b>
<b>6</b>	<b>SAFETY AND MISSION ASSURANCE (S&amp;MA)</b>			
<b>6.1</b>	<b>S&amp;MA MANAGEMENT AND ADMINISTRATION</b>			
<b>6.1.1</b>	<b>Mission Assurance and Risk Management Plan</b>	Mission Assurance and Risk Management (MA&RM) Plan	See DRD	Yearly
<b>6.1.2</b>	<b>Quality Management System</b>	Develop and implement a QMS compliant with AS9100, including documentation control, corrective action system, development of PI&C Quality Management Plan, work instructions and process flows, quality record systems, etc.	See DRD	Ongoing
<b>6.1.3</b>	<b>Audit/Surveillance</b>	Documentation of Audit meetings, response to audit/surveillance findings and action tracking	1 audit	Yearly
<b>6.1.4</b>	<b>Safety and Health</b>	1. Update Safety and Health Plan.	One update	Yearly
		2. Provide Monthly Safety & Health Metrics.	12 metrics packages	1 per month
		3. Submit Annual Safety & Health Self Evaluation Report.	One update	Yearly
		4. Participate in NASA close call and mishap reporting system.	as required	Ongoing
		5. Perform Safety Walkthroughs.	12 walkthroughs	1 per month
		6. Provide Management of call tree and fire wardens.	Initial: once Updates: As changes occur in personnel	At contract start
<b>6.1.5</b>	<b>Lessons Learned</b>	Participate in lessons learned process as needed	as required	Ongoing

<b>6.2</b>	<b>IP/VV S&amp;MA INTEGRATION</b>			
<b>6.2.1</b>	<b>IP/VV Technical Integration</b>	Provide S&MA support to the ISS IP/VV community.		
6.2.1.1	Safety Reviews	1. Provide coordination and support of Safety Reviews, SRP, SRP splinter meetings, OSB reviews, resolution of SRP and WG issues and actions, evaluation of FMEA/CILs, R&M for MLM failure investigations, CoFR support to SMAP and SMARR.	Specific reviews identified in BOE	Ongoing
6.2.1.2	Technical Integration Meetings (TIMs), including chairmanship of selected teams	Participate in TIMs, including chairmanship of selected teams.	Specific TIMs identified in BOE	
6.2.1.3	Milestone Reviews	Provide coordination and support of milestone reviews. Includes: PDR, CDR, QR, etc.; generation, tracking, and closure of RIDs.	Specific TIMs identified in BOE	
6.2.1.4	ISSP Change Requests	Evaluate Technical Change Memorandums (TCMs), Change Requests (CRs), provide recommendations	Specific TCMs/CRs identified in BOE	See Below
6.2.1.5	IP Requirements and Processes	Participate in the development of requirements and processes and negotiation with the IP/VV community. Participate in LPM, Tiger teams, joint telecons, videocons, etc. to develop requirements and processes.	Specifics identified in BOE	See Below
6.2.1.6	ISS working groups	Represent S&MA in working groups to support the development of CE documents, and to ensure CE documents are compliant with S&MA requirements.	Specifics identified in BOE	See Below
6.2.1.7	Weekly Telecons	Participate in and support weekly US/IP/VV telecons.	Specifics identified in BOE	See Below
6.2.1.8	CoFR support	Provide CoFR related support to the SMAP and SMARR. Including presentations.	Specifics identified in BOE	See Below
6.2.1.9	Document Updates	SSP 50191, NASA/ESA Bilateral S&PA Requirements	1 update every 2 years	1 every 2 years
		JPD 315, Limited Life Item Tracking and Control	1 update every 2 years	1 every 2 years

6.2.2	IP Coordination Support	Provide telecon and TIM support for JARSWG and other IP/VV working groups/meetings		
		1. Book coordination for SSP 50146	1 update every 2 years	1 every 2 years
		2. Prepare Agendas and minutes for JARSWG telecons.	40 telecons/yr	1 per week (~)
		3. Prepare agenda and protocols for JARSWG TIMs.	2 JARSWG TIMS (1 in Moscow and 1 in Houston)	2 per year
		4. Provide administrative coordination for SRP, PSRP, and MS&MAP Meetings. Coordinate letter of invitation, logistics, and interpreters.	2 TIMs per year 2 SRPs per year	4 per year
		5. Coordinate translation support from TTI for all Russian faxes.	200 Russian faxes	4 faxes per week
		6. Maintain archive folders for all JARSWG/IP received and sent correspondence.	1000 translations	20 weekly
		7. Unplanned Management Requests	~2 hours per week	~80 hours per year
6.2.3	COFR	8. Administrative Duties	Yearly training	1 per year
		Provide support for CoFR; including presentation development, administrative support, and status integration. Document maintenance.	14 flights per year	1 per flight
6.3	PROGRAM RISK			
6.3.1	Management of Risk Processt	Provide specialized risk management process facilitation to the ISSP community. Coordinate ISS risk in support of the PRAB and CoFR by reviewing team inputs, resolving discrepancies, and preparing metrics and charts for the PRAB and CoFR. Additional emphasis will be given to the Program S&MA internal risk process. Provide tailored training for improvement. Ensure that the risk management process is consistent with program risk management requirements.		

6.3.1.1	Book Updates for JPD 306 and NPR 8000.4 Risk Management Procedures and Guidelines	Establishment of the Program Risk Management System (PRMS) and SSP 50175, ISS Risk Management Plan. Review and provide inputs to NPR 8000.4 Risk Management Procedures and Guidelines	2 updates	per year
6.3.1.2	Provide risk management support across the program	Facilitate general risk management across the program; assist organizations with identification of risks, and completion of their risk assessment	3 hrs per week	per week
6.3.1.3	CoFR Document	Provide Inputs to the CoFR document in the Risk Management Section	1	per year
6.3.1.4	Risk Management Training	Provide training for consistent implementation of risk management principle across the ISS community.	4 Classes; 40 one-on-one training sessions	per year
6.3.1.5	Risk Facilitation - PRAB	Coordinate ISS risks in support of the PRAB by reviewing team inputs, resolving discrepancies, and preparing metrics and charts for the PRAB.	6 PRABs	1 every 2 months
6.3.1.6	ISS Risk Management Working Group Meetings	Support and participate in ISS Risk Management Working Group Meetings.	12 meetings	1 per month
6.3.1.7	Integrated Risk Management Activities	Coordinate risk integration and transfer with and provide support to Integrated Risk Management activities.	12	per month
6.3.1.8	Integrated Risk Product Activities	Develop, coordinate and support integration of ISS qualitative and quantitative risk analysis within ISS Program Office.	6	per month
6.3.1.9	Manage IRMA enhancements and requirements	Identify, track and integrate IRMA enhancements/issues and requirements.	30	per month
6.3.1.10	Unplanned Management Activities	Support management requests that are not part of standard deliverables and processes.	12	per year

6.3.1.11	Risk Facilitation - CoFR/SORR	Coordinate ISS risks in support of CoFR/SORR by reviewing team inputs, resolving discrepancies, preparing risk data by flight, and ensuring complete risk acceptance rationale for CoFR/SORR.	12 Flights per year	1 per flight
6.3.2	<b>Probabilistic Risk Assessment (PRA)</b>	Perform PRA risk trade studies for the ISSP community. Develop and optimize ISS PRA models. Perform Bayesian update of ISSP MADS data for ISS PRA failure database. Provide tailored training for improvement. Supporting working groups and tiger teams. Ensure that the PRA process is consistent with program risk management requirements. Incorporate uncertainty evaluation techniques. Integrate with existing reliability (PRA) modeling.	1 model, 1 Bayesian update, 8 trade studies	per year
6.3.2.1	Risk Trade Studies	As risk-related issues are identified within the ISSP, PRA risk trade studies will provide information to permit better-informed decisions to be made by ISSP management concerning these issues.	8 risk trades studies	per year
6.3.2.2	Develop PRA models	Update existing ISS stage PRA models, one 15A model to be updated in FY08; complete internal documentation within 15A PRA model; perform Bayesian update of MADS data for ISS PRA failure database	1 model; 1 Bayesian update	per year
6.3.2.3	Prepare reports	Generate presentations on ISS PRA activities for dissemination of information outside of ISS S&MA; Complete subsystem notebooks documentation for 10A PRA model; Develop integration and results reports.	3 presentations; 1 set 15A notebooks; 2 PRA reports	per year

6.3.2.4	Working groups and Tiger Teams	1. Support ISS PRA working groups and tiger teams. Assist project planning, budgeting, and expenditure tracking; prepare weekly status reports; Conduct briefings to NASA customer, including monthly status; Support and participate in tiger team meetings for PRA of Bioastronautics Risk (BR).	48 tag-ups 4 project planning and budgeting exercises 4 briefings 12 (monthly) status briefings 40 meetings	per year
6.2.3.5	Develop PRA methodologies	Methodologies for modeling HRA (Human Reliability and Common Cause) will be incorporated into the PRA model.	1 methodology development	per year
6.2.3.6	PRA data development	Develop data consistent with MADS database	1 file	per year
6.2.3.7	Develop additional PRA system models	Develop PRA system models for the following: SSRMS, EVA, Crew Systems, Docking (STS, Progress, Soyuz, ATV, HTV, CEV, COTS)	9 system PRA models	per year
6.4	<b>ISS SAFETY PROGRAM</b>	Perform hazard analyses and close VTLs for assembly complete hazard reports; Stowage Hazard Report ISS-STO-801, Internal Volume Hazard Report ISS-IVA-0202, Drag Through Hazard Report ISS-NTN-001	14 flights	3 HR VTLs/closures per flight
6.5	<b>RESERVED</b>			
6.6	<b>QUALITY ASSURANCE</b>			
6.6.1	<b>Problem Reporting System Maintenance</b>	Maintain the ISS PRACA Database System. Implement and maintain an improved PDS. Provide support to QA personnel and SPRTs during PR resolution/closure process		
6.6.1.1	PR resolution/closure process	Provide support to QA personnel and SPRTs during PR resolution/closure process through daily PR review and updates. Participate in bi-weekly QA working group meetings and weekly SPRT meetings	70 meetings; daily review/update	per year

6.6.1.2	PDS System	PDS Upgrade: compile list of requested enhancements from users, prioritize with OE Quality Manager and coordinate implementation with ARES PI&C IT SW group. At a minimum, includes flexible signature functionality, new CoFR report, and additional metrics reports. May include proprietary data directory structure to accommodate IP processing of PRs..	4 releases	per year
6.6.1.3	Administrative support to the PDS system	Provide user support, training, custom queries/reports	As required	Ongoing
6.6.1.4	PRACA Metrics development	Develop meaningful metrics for CoFR and process management.	As required	Ongoing
6.6.1.5	Evaluation/test of Cx PRACA prototype	Test administrative functions and search capabilities once ISS data is imported; Evaluate potential for use as a replacement for ISS PDS	As required	Ongoing

6.7	<b>OPERATIONS SAFETY</b>	Represent S&MA at strategic and tactical planning meetings including launch package teams (LPT), stowage integration working group (SIWG), internal volume configuration working group (IVCWG), and the Assembly Working Group (AWG) meetings. Evaluate products for those teams and provide an S&MA status or S&MA position when required. Evaluate change requests relating to these areas and present recommendations to the S&MA change panel. Attend Daily Space Station Reviews (DSSR) and SSPCBs, as required to support management, LPTs, and to perform pre-flight tactical integration responsibilities. Participate and present at Mission Integration Office (MIO) and Safety and Mission Assurance (S&MA) milestone reviews or technical interchange meetings when required, including daily participation in the open paper tracking for each flight. Conduct issue resolution conferences and participate in special teams as necessary. Provide technical briefings or status to S&MA management upon request		
6.7.1	<b>Documentation Verification</b>	Evaluate, monitor, and respond to the S&MA Manifest Priorities List for each flight (PBMA); Assess all line items on the flight manifest to determine status of safety and reliability certification/readiness; track flight open paper	84 manifest drops	6 manifest drops per flight (14) and as required for unplanned on-orbit activities
6.7.2	<b>Mission Integration and Operations Planning</b>	Stowage Flight Readiness Activities - generate Stowage 1-pagers for every flight in support of SMSRs, while evaluating the stowage OC risk acceptance rationale and the OC stowage CoFR presentations.	5 per flight	per flight, 14 flights



6.7.3	<b>Strategic and Tactical Planning</b>	Identify, provide closure recommendation and present safety issues and status to appropriate ISSP boards and panels.	As Required	Ongoing
6.7.4	<b>IMT Support</b>	Inform NE IMT reps of manifest and IDRDR evaluations and other pertinent launch package activities or other pertinent technical issues.	48	per week
6.7.5	<b>LPM Representation</b>	Provide LPM S&MA related requirements. Attend LPM meetings, evaluate flight plans and objectives, and provide meeting notes to S&MA team members	As Required	Ongoing
6.7.5	<b>CR Evaluation</b>	Coordinate and facilitate S&MA review of Change requests:	As Required	Ongoing
6.7.6	<b>DSSR Representation</b>	Evaluate agenda and prepare for topics; Work actions and requests for information and coordinate information with S&MA teams; Work special assignments as requested by OE customer	As Required	Ongoing